

REMARKS

This responds to the Office Action dated February 26, 2008, and the references cited therewith. No claims are amended herein. Claims 1-36 are now pending in this application and have been rejected in the Office Action under section 102 or section 103. The rejections are traversed and reconsideration is respectfully requested.

§102 Rejection of the Claims

Claims 1, 9, 10, 18, 19, 27, 28 and 36 were rejected under 35 U.S.C. 102(b) as being anticipated by Lenglet et al. (US 2002/0106538). Regarding claims 1, 10, 19 and 28, the Office Action alleges that Lenglet discloses a process and apparatus for the exothermic generation of syngas by the partial oxidation of a hydrocarbon-containing fuel that includes: 1) reacting the hydrocarbon-containing fuel with an oxygen containing gas in a first reactor to produce the syngas and byproducts comprising CO₂, H₂O and soot, and 2) "introducing the syngas and byproducts into a second reactor (filter, 7, 14, see flow diagram of Fig. 1) containing a non-carbonaceous material (ceramic, paragraph [0027]) that traps the soot for a sufficient time such that the majority of the byproduct soot is gasified (paragraph [0041]) via reaction with the byproduct CO₂ (from gasification of soot) to produce a syngas stream that is depleted in the soot (see abstract)." As stated previously, it appears to Applicant that the soot in the Lenglet process, after being trapped in the filter, is combusted with externally supplied oxygen (see paragraph [24]) in order to regenerate the filter rather than reacting with byproduct CO₂ and/or H₂O to produce syngas as called for by the pending claims.

In the Final Office Action, the Examiner expresses disagreement with Applicant's argument stated above that the soot in the process of Lenglet is combusted with externally supplied oxygen rather than byproduct CO₂ and/or H₂O. The Final Office Action states that:

Lenglet discloses gasifying the trapped soot with exhaust from the first reactor (3) by stating in paragraph 29 that "the second circuit of the recovery zone can contain at least one filter. It can contain a catalyst for vapor reforming recovered soot to gasify it while the first filter is in a regeneration mode". In other words, Lenglet implies that soot is further gasified in the filter while the other filter is being regenerated (which means exhaust from the first reactor must be traveling to the online filter).

Applicant stands by the previous remarks made with respect to the operation of the filter 7 of the first circuit. It appears to Applicant, however, that the vapor reforming of the recovered soot in the filter 14 of the second circuit is accomplished with externally supplied steam. That this is so is made clear in paragraph 59 that, referring to Fig. 2, describes a pipe 22 controlled by a valve 23 for supplying water vapor (i.e., steam) to the auxiliary filter 14. Thus, neither of the filters 7 or 14 operate to gasify recovered soot by reacting the soot with byproduct CO₂ and/or H₂O as recited in the claims. The Lenglet reference thus does not anticipate claims 1, 9, 10, 18, 19, 27, 28 and 36. Withdrawal of the rejections is respectfully requested.

§103 Rejection of the Claims

Claims 1, 3, 6, 7, 10, 12, 15, 16, 19, 21, 24, 25, 28, 30, 33, and 34 were rejected under 35 U.S.C. 103(a) as being unpatentable over Edlund et al. (US 2001 /0045061) in view of Adiletta (US 200210141910). Regarding claims 1, 3, 7, 10, 12, 16, 19, 21, 25, 28, 30, and 34, the Office Action alleges that Edlund discloses a process and apparatus for the production of syngas from hydrocarbon containing fuel that includes reacting the hydrocarbon-containing fuel with an oxygen containing gas (partial oxidation) in a first reactor to produce the syngas as well as byproducts CO₂, H₂O, and soot and “introducing the syngas and byproducts (via conduit 36) into a second vessel (filter, 60) containing a non-carbonaceous material (sintered metal, ceramic, paragraph [0043]).” The Office Action concedes that Edlund fails to disclose a step where soot is gasified with the byproducts of the partial oxidation in the filter. Then Office Action then argues that Adiletta discloses an oxidation process with a filter (diesel exhaust filter) downstream from a combustion zone (engine) and teaches that the diesel particulate filter operates to trap the majority of the soot and then oxidizes them in the presence of a catalyst as a way of regenerating the filter during operation. The Office Action asserts that it would have been obvious to incorporate the filter regeneration process described in Adiletta into the process of Edlund.

The process described in Adiletta, however, appears to be a filter for removing particulate matter from engine exhaust in which the particulate matter is combusted in order to regenerate the filter. In describing the regeneration process, the Adiletta reference refers to the particulate matter trapped in the filter being burned off, combusted, or ignited. This necessarily means that the filter regeneration process of Adiletta involves combining the trapped soot with

oxygen. Nowhere does Adiletta discuss gasifying the soot by reacting it with byproduct H₂O and CO₂ as recited in the rejected claims. Combining the teachings in the Edlund and Adiletta references (or with the teachings of Lenglet as discussed above) thus does not result in the invention recited by claims 1, 3, 6, 7, 10, 12, 15, 16, 19, 21, 24, 25, 28, 30, 33, and 34, and Applicant finds no suggestion in the references for modifying those teachings to do so.

Claims 2, 11, 20 and 29 were rejected under 35 U.S.C. 103(a) as being unpatentable over Edlund et al. (US 20010045061) and Adiletta (US 200210141910) as applied to claims 1, 10, 19 and 28 above, and Clawson et al. (US 6,641,625). Claims 8, 17, 26 and 35 were rejected under 35 U.S.C. 103(a) as being unpatentable over Lenglet et al. (US 200210106538). Claims 4, 5, 13, 14, 22, 23, 31 and 32 were rejected under 35 U.S.C. 103(a) as being unpatentable over Lenglet et al. (US 200210106538) in view of Michalko (US 3,714,071). Applicant reiterates the remarks regarding these rejections made in response to the previous Office Action. Applicant believes that the recitations of claims 2, 4, 5, 8, 11, 13, 14, 17, 20, 22, 23, 26, 29, 31, 32, and 35 are patentably significant in the context of their combination with the subject matter recited by the independent claims. Also, as explained above, Applicant believes that the process described in Lenglet is materially different from what is being claimed and that the combination of Lenglet with the other cited references does not teach or suggest the recitations of the rejected claims.

For the reasons stated above, Applicant submits that none of the pending claims are anticipated or rendered obvious by the cited references. Withdrawal of the rejections is respectfully requested.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (847) 432-7302 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

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Date April 28, 2008

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop AF, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 28 day of April 2008.

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